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A handwritten signature in black ink, appearing to be "L. Mynott".

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MANAGER EXAMINATION SUPPORT
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PROVISIONAL STANDARD PATENT APPLICATION**APPLICANT & INVENTOR:**

CON HATZILIAS

37 WATTLE GROVE

RESERVOIR VIC 3073

DATE: 22/04/2003**TITLE:****FOOTWEAR FOR GRIPPING AND KICKING A BALL****BACKGROUND OF THE INVENTION****1. Field of the Invention**

The present invention relates generally to athletic footwear. More particularly, this invention relates to athletic footwear used in football or other sports, which require kicking and/or dribbling of a ball with the wearer's feet.

2. Related Art

Football shoes are used by a wearer to dribble, kick and pass a ball. In each function, it is beneficial for the wearer to be able to handle and control the ball easily and effectively with the football shoe. It is also beneficial to have a football shoe that enables the wearer to impart spin and increase power to the ball as it is kicked. Further, a football shoe that improves a wearer's ability to control and kick the ball as environmental conditions become adverse, such as when it is cold, wet and/or muddy, is crucial to a wearer's consistent performance.

In light of the above, numerous attempts have been made over the years to incorporate into a football shoe some type of ball handling surface attached to the shoe upper that provides the wearer with better grip and purchase of a ball. This includes a means to provide adequate dribbling and controlling features to the wearer and means of applying or increasing power or influence over the ball during kicking and passing.

In addition, the ball control system must be integrated into a football shoe in such a manner as to not impede a player's speed by being too heavy or cumbersome

SUMMARY OF THE INVENTION

To achieve the foregoing and other objects, and in accordance with the purposes of the present invention as embodied and broadly described herein, the article of footwear of the present invention comprises a ball control and influence system. The system of the present invention features a ball control surface that is comprised of a series of raised concentric 'finger print' protrusions, arranged around each other on the football shoe upper.

The concentric 'finger print' protrusions are malleable - deforming upon contact with the ball, giving the wearer exceptional ball "feel" and grip. The inventions' 'finger print' like design stimulates ball feel and grip, and acts like a sensory skin.

What is commonly referred to as the gloving effect takes place, where the pace is taken off the ball and the ball is momentarily held on the surface, before assisting in its redirection. Further, the plurality of the concentric 'finger print' protrusions give a ball multiple contact areas with the football shoe. With greater ball "feel" and grip, the wearer has greater ball control and is able to impart a variety of desired effects on the ball, such as more spin and/or power to the ball.

The compound, height, spacing and thickness of the concentric 'finger print' protrusions may all vary. The combination and various configurations of compound, height, spacing and thickness, impacts energy absorption and spin, and the capacity to generate greater power and accuracy when kicking. For example, for power kicking the surface material is of sufficient thickness to remain stable upon impact with the ball, where as for dribbling the material is thinner and more flexible so the wearer can feel the ball. The concentric 'finger print' protrusions are generally formed from a single compound, such as rubber or suitable synthetic or plastic alternative. However, the inner 'rings' may be a different compound and/or height, and/or thickness, to its outer 'rings', and vice-versa. The protrusion rings may be arranged tightly and/or loose around each other.

It's also possible that the compound selected for the concentric 'finger print' protrusions of the throat region of the upper be less malleable than the compound selected for the concentric 'finger print' protrusions which cover the lateral and medial regions of the ball control surface. Further, the protrusions on the throat region may have a catapult like feature to generate kicking power and ball velocity.

Further features and advantages of the present invention, as well as the structure and operation of various embodiments of the present invention, are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTIONS OF THE FIGURES

The accompanying drawings, which are incorporated herein and form part of the specification, illustrate the present invention and together with the description further serve to explain the principles of the invention and to enable a person skilled in the pertinent art to make and use the invention.

FIG 1 is a medial side view of one embodiment of an article of footwear in accordance with the present invention.

FIG 2 is a lateral view of the article of footwear in **FIG 1**.

FIG 3 is a top view of the article of footwear in **FIG 1**.

FIG 3A is a top view of a alternative embodiments of the concentric 'finger print' protrusions of **FIG 1**.

FIG 4 is a cross-sectional view of the concentric 'finger print' protrusions of **FIG 1** in a relaxed state.

FIG 4A is a cross-sectional view of alternative concentric 'finger print' protrusions of **FIG 1** in a relaxed state.

FIG 5 is a cross-sectional view of the concentric 'finger print' protrusions of **FIG 1** upon contact with a ball.

FIG 5A is a cross-sectional view of a second embodiment of an article of footwear in accordance with the present invention, showing the recessed surface placement of the concentric 'finger print' protrusions of **FIG 1** in a relaxed state.

FIG 5B is a cross-sectional view of the concentric 'finger print' protrusions of **FIG 1** in a relaxed state with height variances.

FIG 5C is a top view of a concentric 'finger print' protrusion embodiment.

FIG 6 is a medial side view of a third embodiment of an article of footwear in accordance with the present invention.

FIG 7 is a lateral view of the article of footwear in **FIG 6**.

FIG 8 is a top view of the article of footwear in **FIG 6**.

FIG 9 is an alternative embodiment of a throat region consisting of two concentric 'finger print' protrusion clusters.

FIG 10 is a lateral side view an alternate embodiment of a throat region 607 of an article of footwear in accordance with the present invention.

FIG 11 is a cross-sectional view of the bar protrusions of **FIG 10** in a relaxed state.

FIG 12 is a cross-sectional view of the bar protrusions of **FIG 10** upon contact with the ball.

FIG 13 is a cross-sectional view of an alternative embodiment of the bar protrusions of **FIG 10** in a relaxed state.

FIG 14 is a cross-sectional view of an alternative embodiment of **FIG 13** of the bar protrusions of **FIG 10** in a relaxed state.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A preferred embodiment of the present invention is now described with reference to the figures where like reference numbers indicate identical or functionally similar elements. While specific configurations and arrangements are discussed, it should be understood that this is done for illustrative purposes only. A person skilled in the relevant art will recognize that other configurations and arrangements can be used without departing from the spirit and scope of the invention. It will be apparent to a person skilled in the relevant art that this invention can also be employed in a variety of other applications.

A medial side view of a football shoe **100** in accordance with the present invention is shown in **FIG 1**. Football shoe **100** has an upper **101** and a sole **102** provided with studs **103**. The football shoe **100** comprises a heel portion **106**, a conventional fastening portion **107**, a toe cap portion **108**, a side wall **109**, and a tongue portion **110**. Upper **101** may be made of leather. In another embodiment of the present invention, upper **101** may be made of any suitable synthetic and/or lightweight material, including rubber and a combination of fabric and plastic. Sole **102** and studs **103** are integrally formed of plastic in an injection molding process. In another embodiment, sole **102** and studs **103** may be formed separately and attached one to another in any means apparent to a person skilled in the relevant art given the present description and application.

FIGS 2 and 3 depict the lateral and top view respectively of the article of footwear in **FIG 1**.

In **FIG 1** ball control region **104** is attached to upper **101** and is comprised of a series of concentric 'finger print' protrusions **105**. The concentric 'finger print' protrusions are generally arranged around each other and are malleable. The concentric 'finger print' design of the protrusions perform like a sensory skin and stimulate feel, giving the wearer exceptional ball "feel" and grip. With greater ball "feel" and grip, the wearer has greater ball control and is able to impart spin on the ball. The faster the spin a wearer is able to impart on the ball, the greater the ball swerve and 'banana like' kicking. The concentric 'finger print' protrusions are designed to extend over and around the ball

contact 'sweet spots'. The protrusions may be arranged tightly around each other, or loosely around each other.

In another embodiment of the present invention, ball control region 104 may be formed integrally with upper 101. Each concentric 'finger print' protrusion 105 is generally 'wall like' and may be of substantially equal height and width. The 'finger print like' protrusions 105 may be from approximately 1mm to 10mm, in both height and width. The thinner the protrusions, the less energy absorbed, making the ball come faster of the football shoe.

The concentric protrusions are generally arranged ring like, though their arrangement may vary as shown in the top view of a alternative embodiments FIG 3A. The protrusions may be substantially arranged diamond like 111, square like 112, rectangle like 113, or other concentric like arrangement.

FIG 4 shows a cross-sectional view of the concentric 'finger print' protrusions of FIG 1 in a relaxed state. FIG 5 shows a cross-sectional view of the concentric 'finger print' protrusions of FIG 1 upon contact with a ball. The concentric 'finger print' protrusions 105 are able to store and release energy. When they are deformed by a received ball, energy is stored and then imparted to the ball as the protrusions reform when the ball is released. With certain type of kicks and kicking regions of the shoe, such as the throat region, it is desirable for the protrusions to not deform. In such cases, a certain amount of energy is still impacted to the ball due the resilient nature of the protrusions.

FIG 4A is a cross-sectional view of concentric 'finger print' ring protrusions of FIG 1 in a relaxed state. The concentric 'finger print' protrusions may be arranged substantially with a square like profile 114 at the ball control surface region 104, a U-shaped groove profile 115, or a combination of U-shaped grooves and V-shaped grooves 116.

FIG 5A is a cross-sectional view of a second embodiment of an article of footwear in accordance with the present invention, showing the recessed placement of the concentric 'finger print' protrusions of FIG 1 in a relaxed state on the ball control surface region 104.

FIGS 6 through 8 show an alternate embodiment of the present invention. Football shoe 600 has an upper 601 and sole 602 provided with studs 603. Ball control surface 604 is attached to an outer surface of upper 601 and is comprised of the concentric 'finger print' protrusions 605 arranged around each other. Ball control surface 604 is arranged such that it defines sweet spot ball pockets 606 on the outer surface of upper 601. Sweet spot ball pockets 606 are created to expose and isolate the ball contact sweet spots and minimise shoe weight. The upper remains generally convex shaped, to conform to the shape of the foot. As shown in a cross-sectional view FIG 5B, the concentric 'finger print' protrusions 605 may be arranged such they are shorter 610 near the sweet spot ball pockets 606, and taller 611 as the move away from the sweet spot ball pockets 606, to accommodate the concave surface 612 of the football ball.

The concentric 'finger print' protrusions 605 of ball control surface 604 are each formed of a single compound, such as rubber. However, the compound, height, spacing and thickness of the concentric 'finger print' protrusions 605 may vary on the football shoe upper 601. Whilst the concentric 'finger print' protrusions are generally formed from a single compound, such as rubber or suitable synthetic or fabric, the inner 'rings' 613 as shown in FIG 5C, may be a different compound to the outer 'rings' 614, and vice-versa.

It's also possible that the compound selected for the concentric 'finger print' protrusions of the throat region 607 in FIG 8 of the upper, be less malleable than the compound selected for the concentric 'finger print' protrusions which cover the lateral 609 and medial 608 regions of the ball control surface. The less malleable concentric 'finger print' protrusions 605 give extra power and bite when ball contact is from within this region of the shoe.

In contrast, medial region 608 and lateral region 609 of ball control surface 604 are made of a softer malleable material, which deforms around the surface of a ball, giving the wearer exceptional ball "feel" and grip. With greater ball "feel" and grip, the wearer has greater ball control and is able to impart a variety of desired effects on the ball, such as more spin and/or power to the ball.

In FIG 9, an alternative embodiment of a throat region 607 is shown, consisting of two 'finger print' protrusion 605 clusters. In this embodiment, the shoe laces in the fastening portion are hidden by a length of material. Further embodiments may feature more than two concentric 'finger print' protrusion 605 clusters within a throat, medial or lateral region.

FIG 10 is a lateral side view an alternate embodiment of a throat region 607 of an article of footwear in accordance with the present invention. The protrusions are bar like 613 across the ball contact surface. In this embodiment, the bar protrusions 613 are able to arc 614 and bend 615 in FIG 12 upon contact with the ball 612, storing and then releasing energy, catapult like, resulting in greater kicking power and ball velocity.

The bar like protrusions 613 may be forward slanting as in FIG 13 to create a greater arc 614 in FIG 11, thereby storing and releasing a higher level of energy. Further, the bar like protrusions 613 may have a harder and more resilient layer of material 615 in FIG 14 in the ball facing contact area, or a pad of elastic rubber, or gel, or air filled void 615 to enhance the catapult effect.

Ball control surface 604 and the concentric 'finger print like' protrusion 605 clusters, may also be removable from the upper and available in a kit like assembly to modify a conventional football shoe. For example, the ball control region could be attached with snaps, a hook and pile fastener or in any other convenient manner. Individual concentric 'finger print' protrusions might also be replaceable so that an individual football player may tailor their ball control region to suit their individual needs or desires.

While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example, and not limitation. It will be apparent to persons skilled in the relevant art that various changes in form and detail can be made therein without departing from the spirit and scope of the invention. Thus the present invention should not be limited by any of the above-described exemplary embodiments.

FIG 1

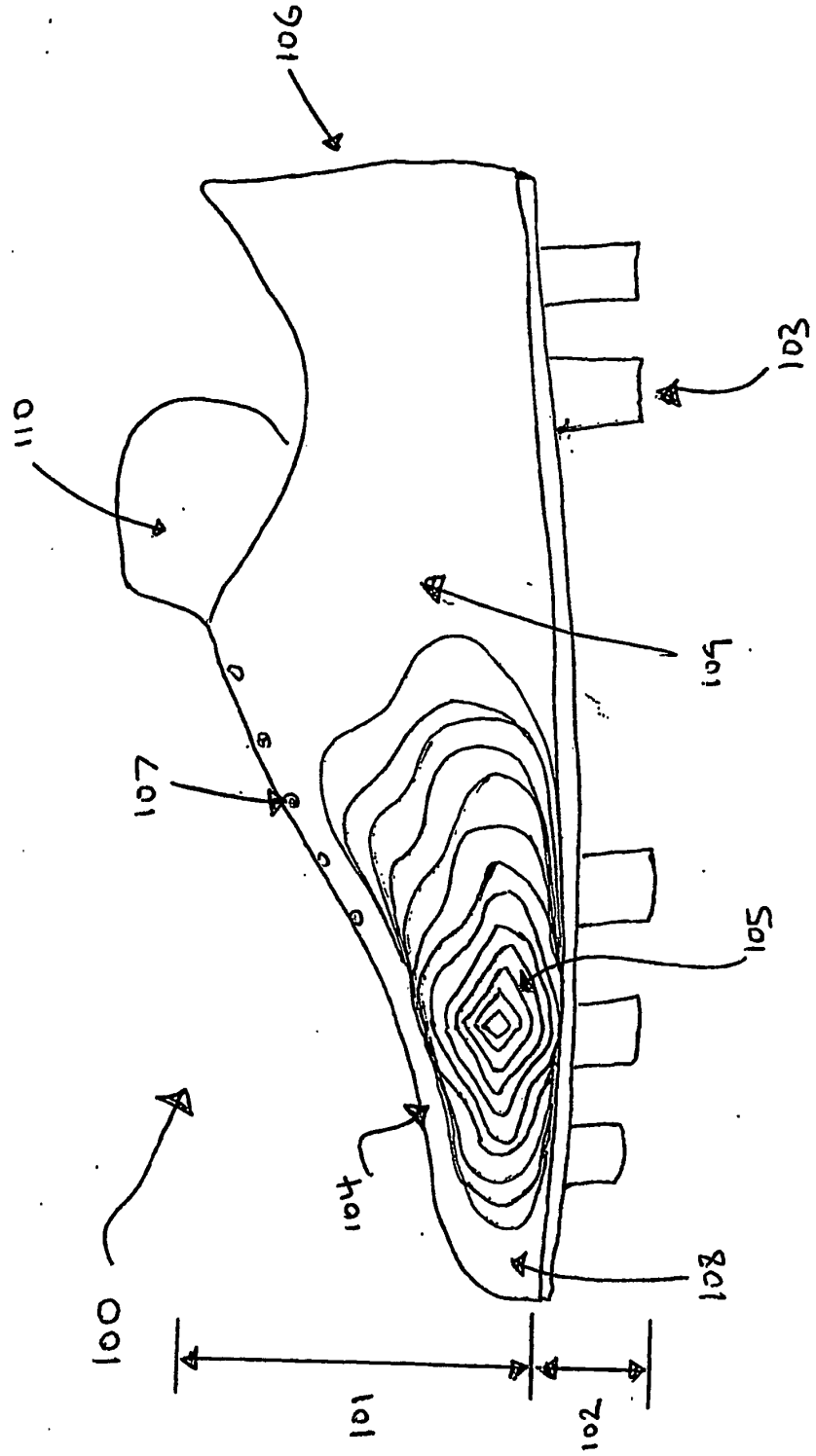


FIG 2

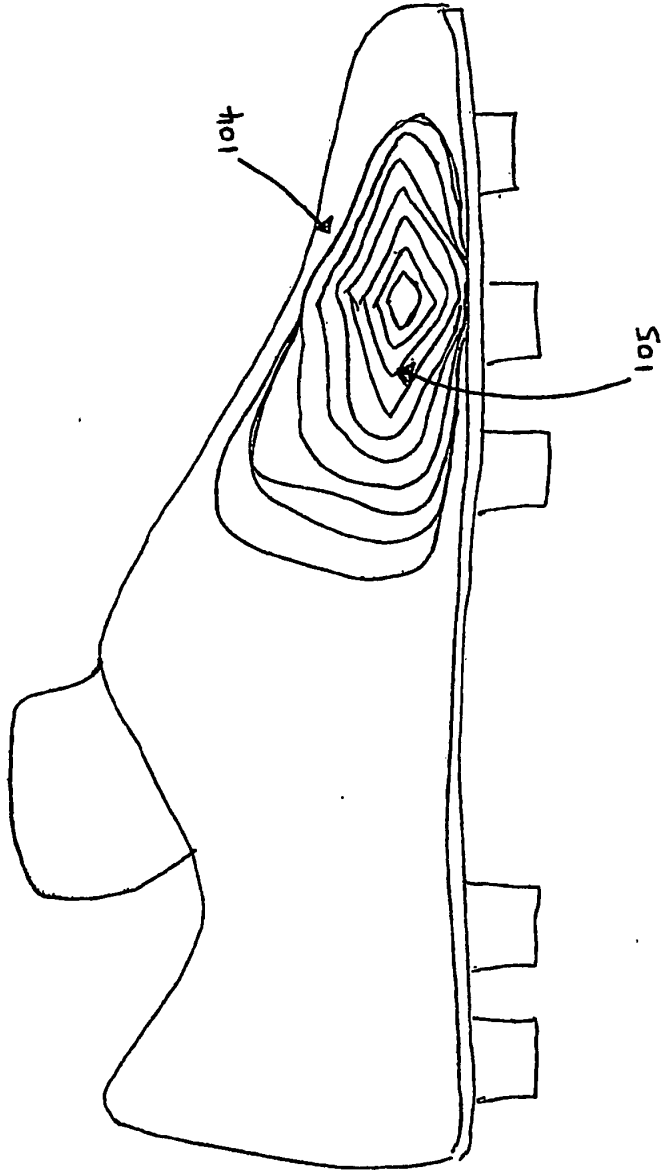


FIG 3

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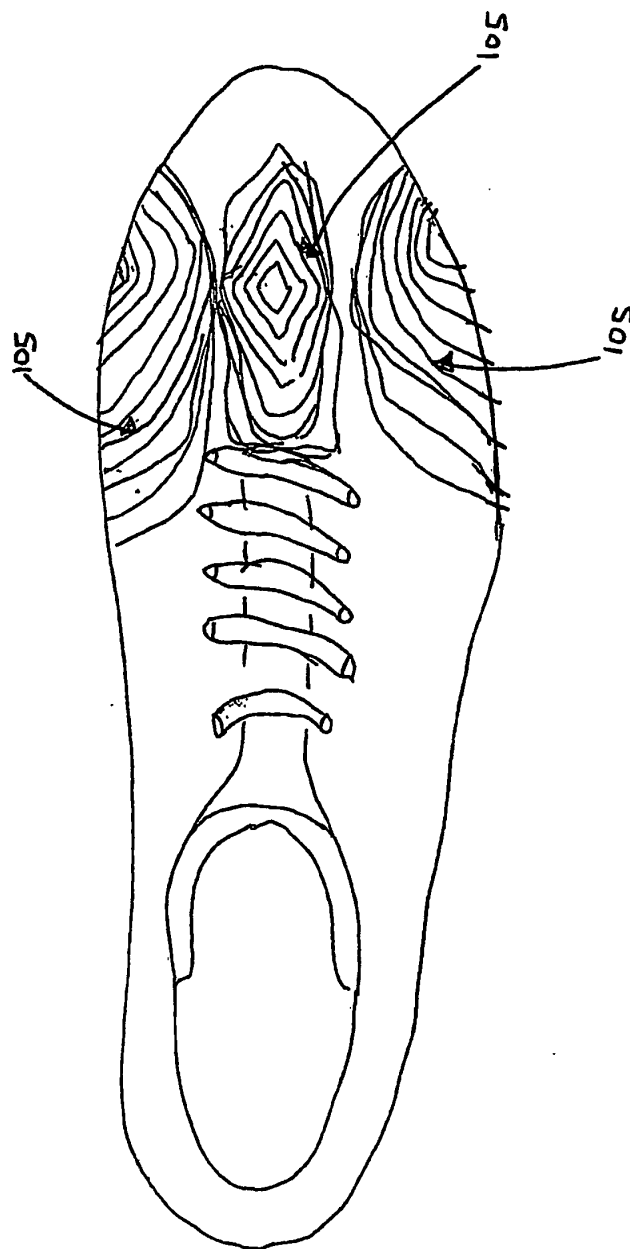


FIG 3A

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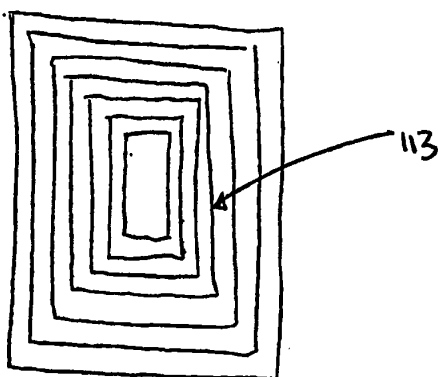
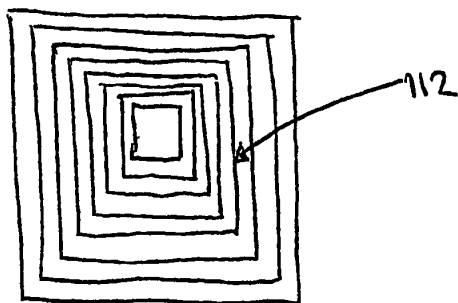
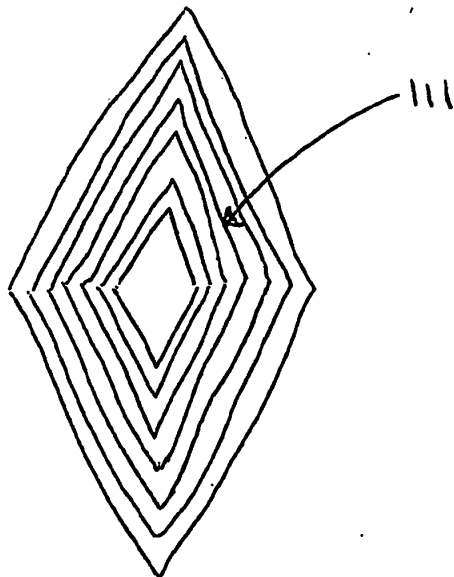


FIG 4A

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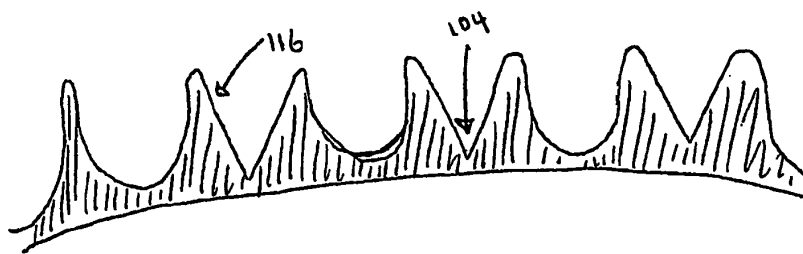
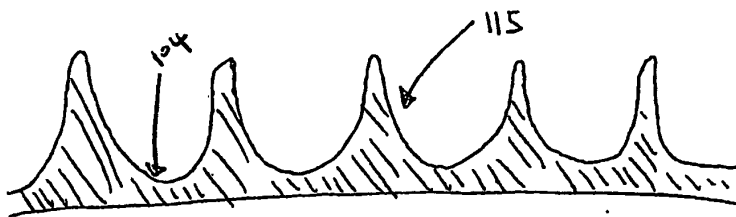
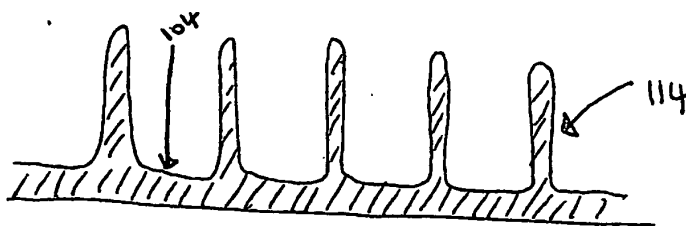


FIGURE 4

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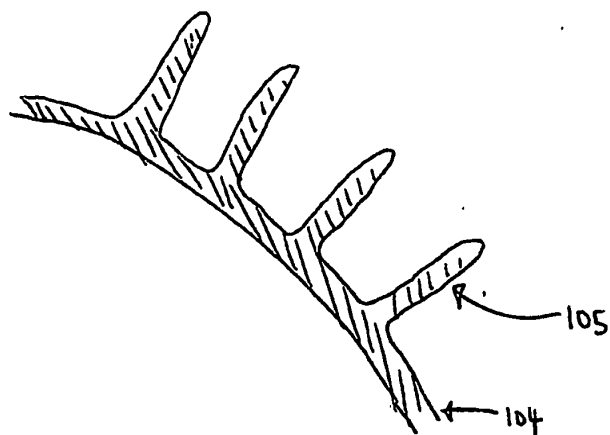


FIGURE 5

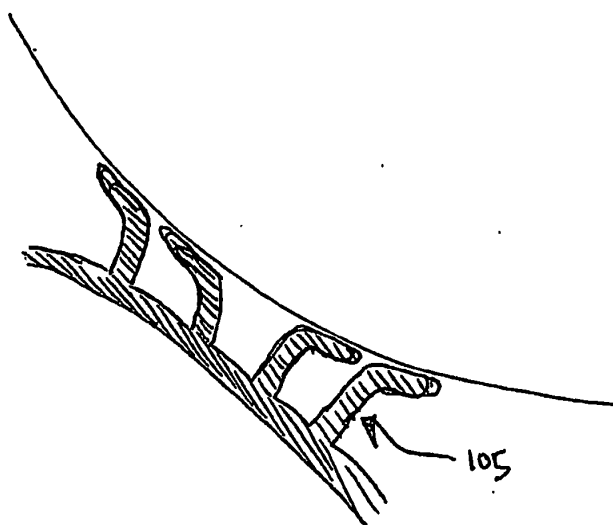


FIGURE 5A

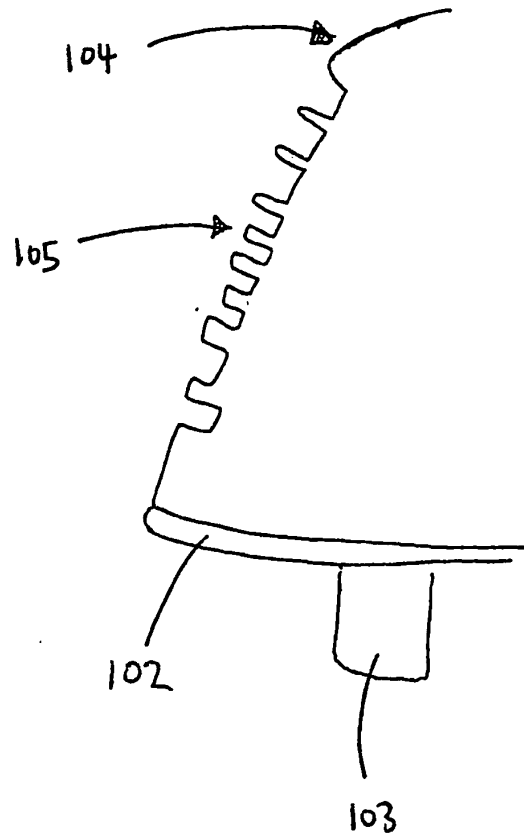


FIGURE 5B

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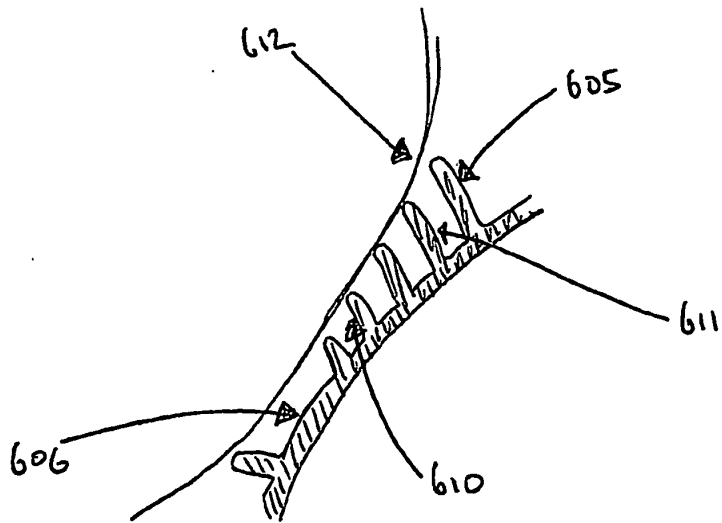


FIGURE 5C

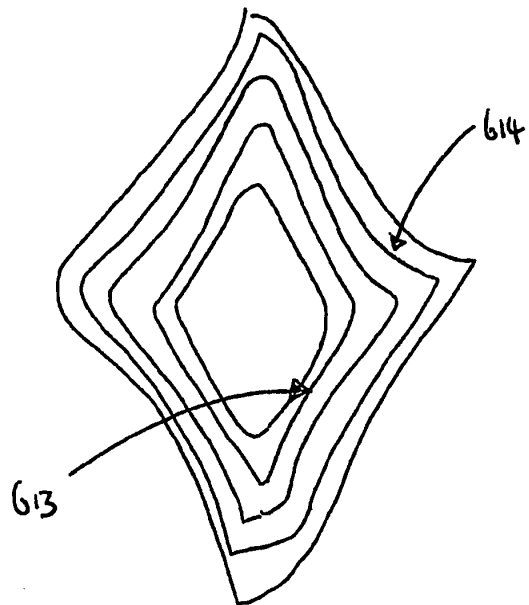


figure 6

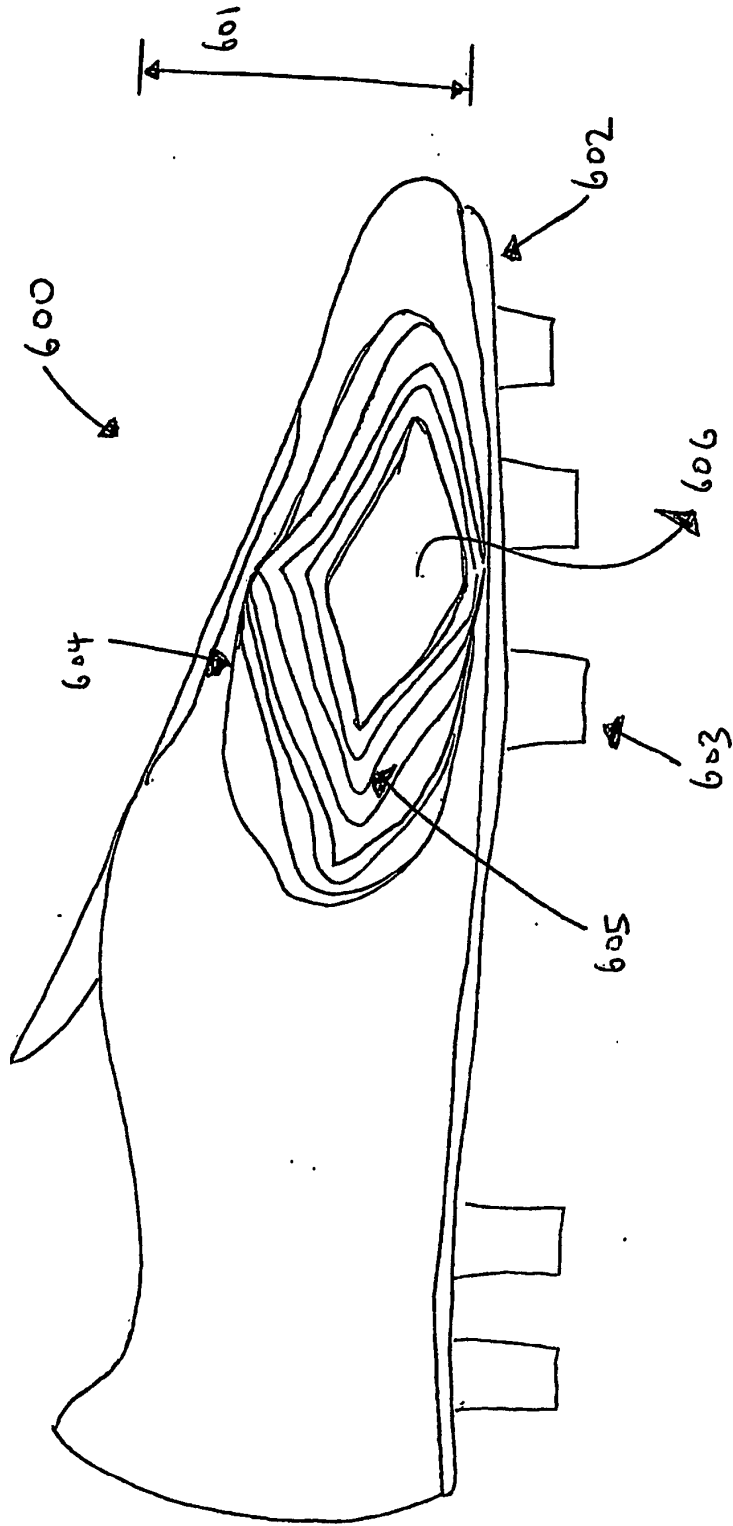


FIGURE 7

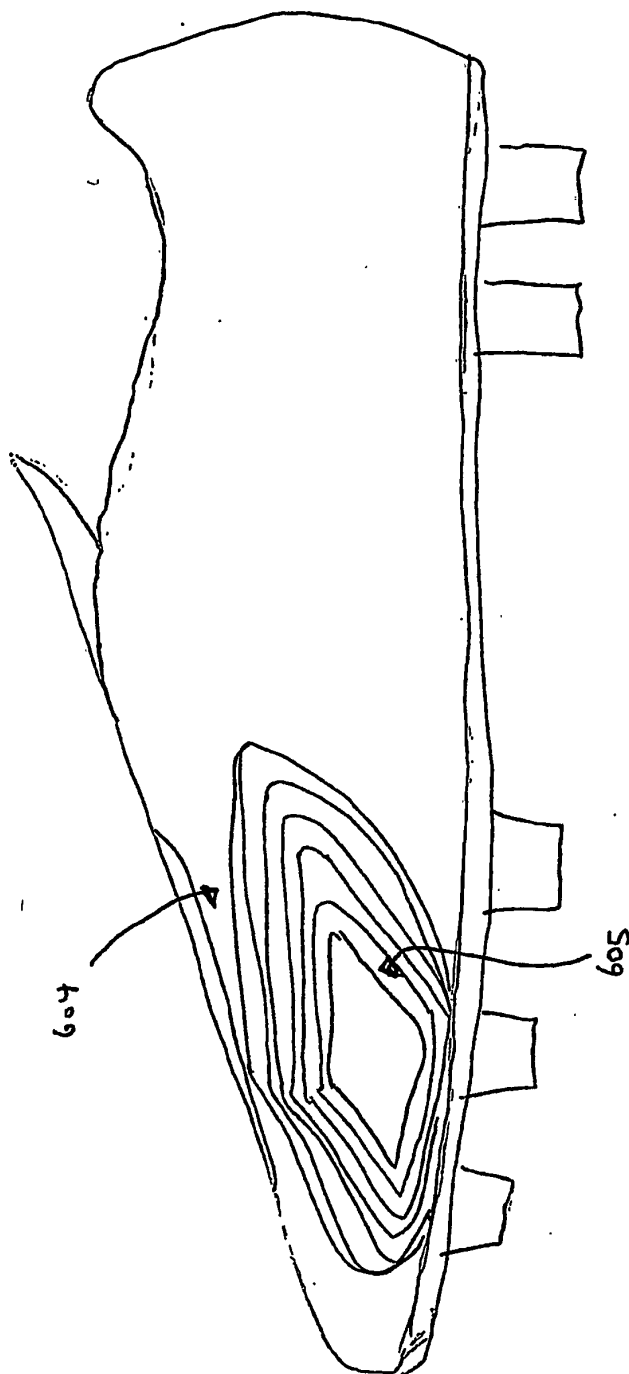


FIGURE 8

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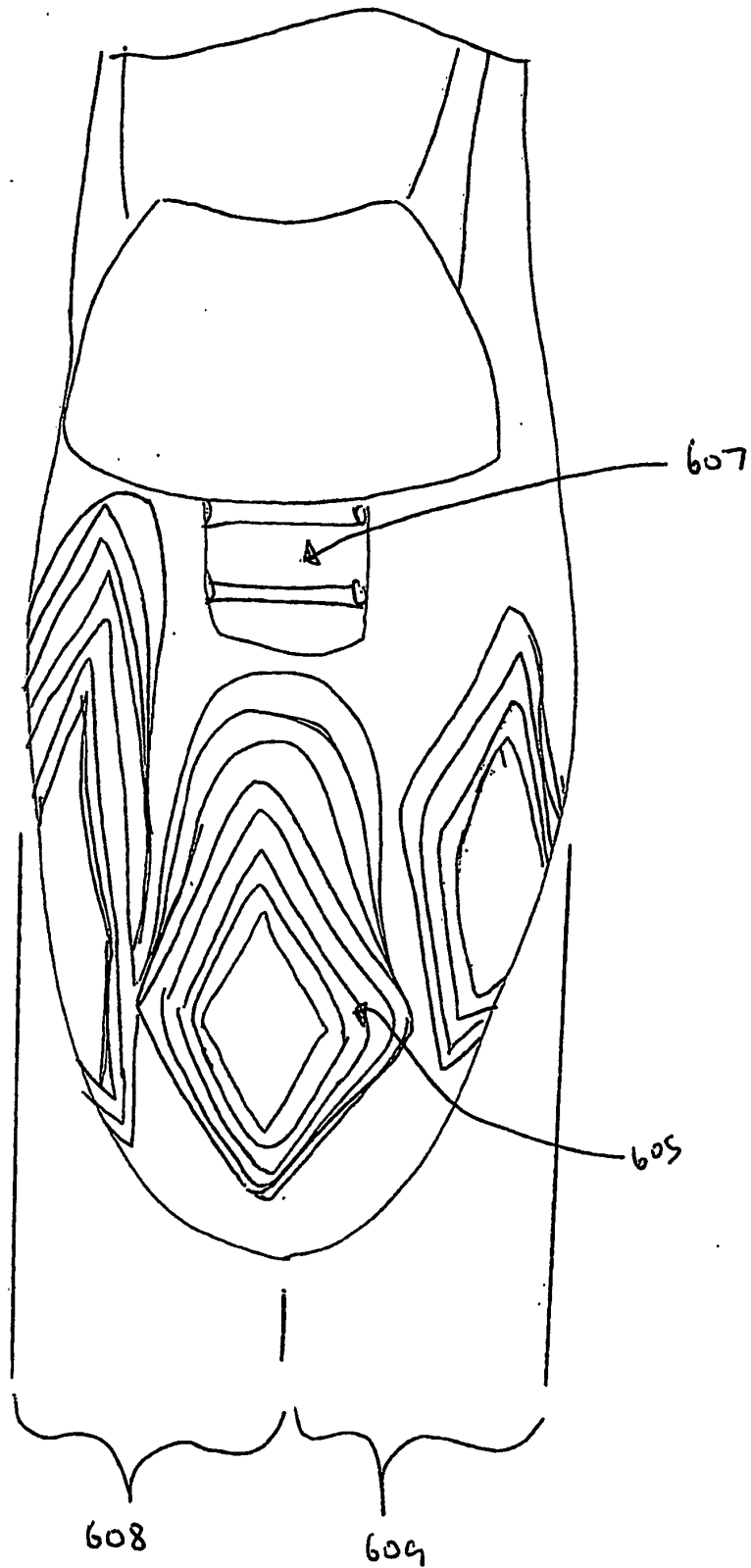


figure 9

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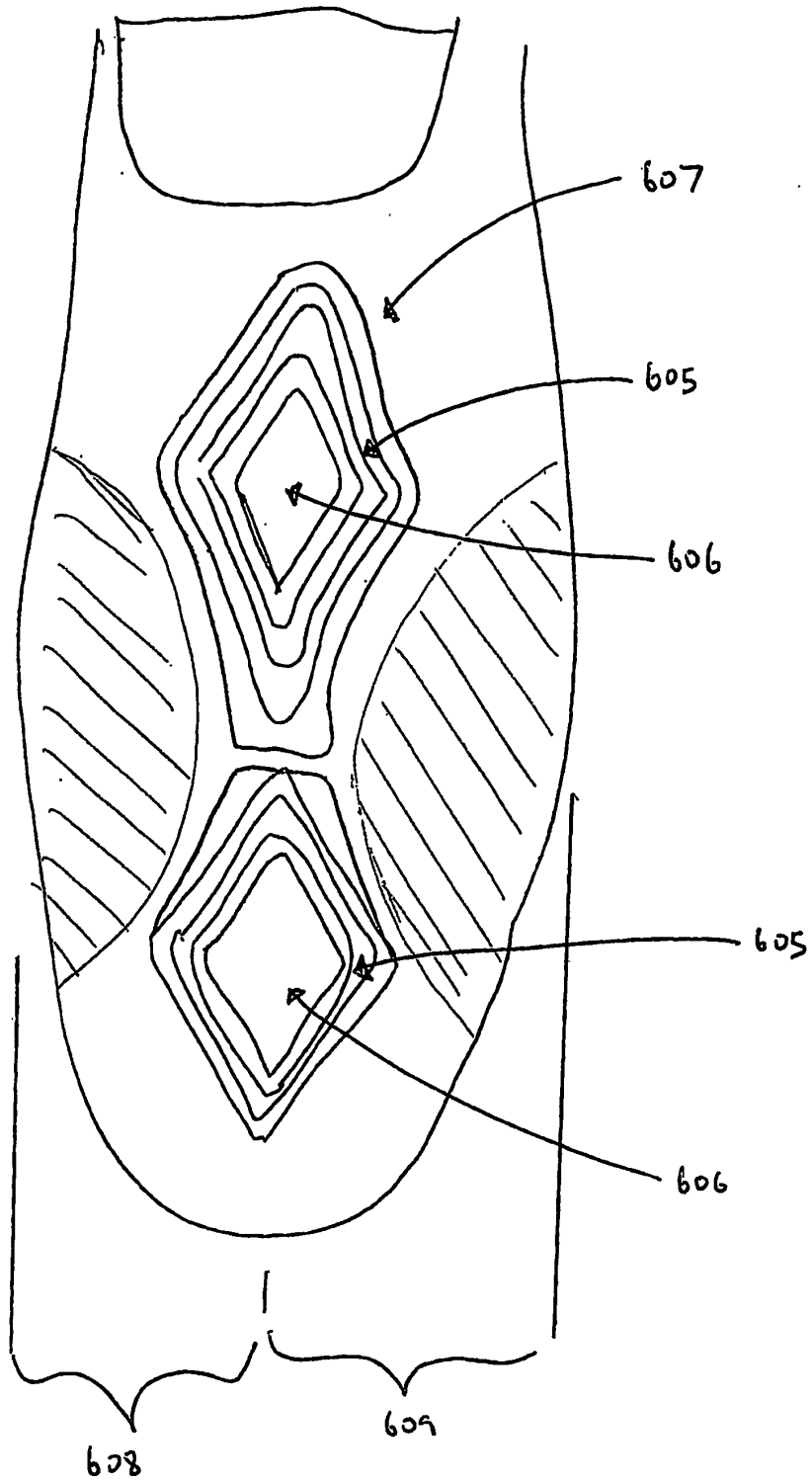


FIG 10

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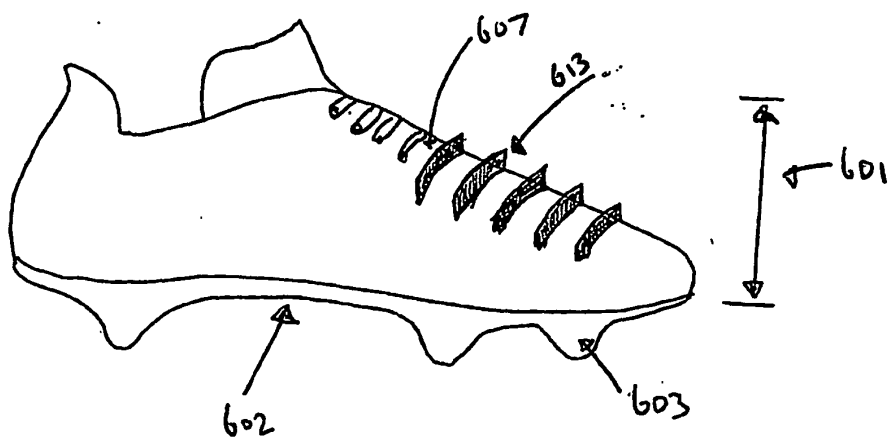


FIG 11

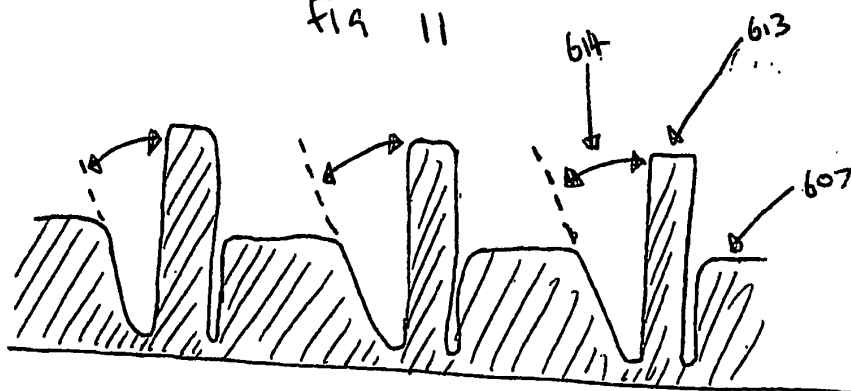


FIGURE 12

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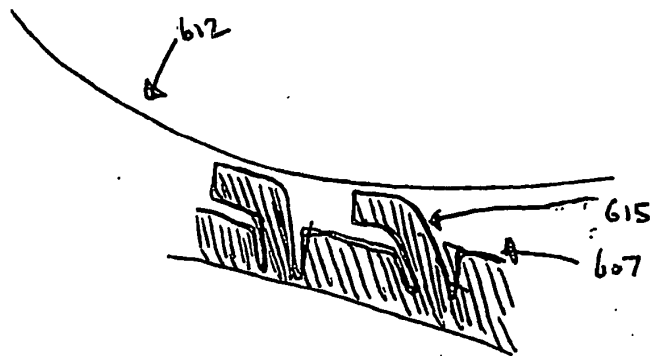


FIGURE 13

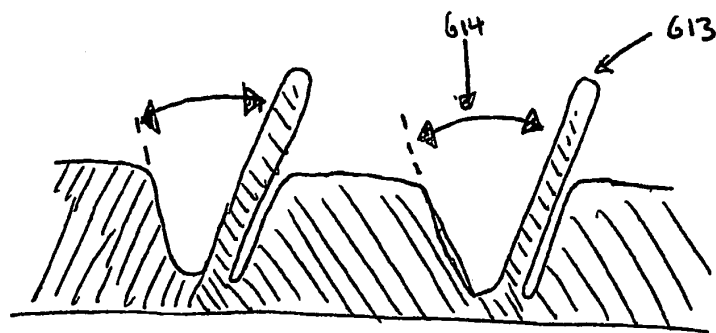
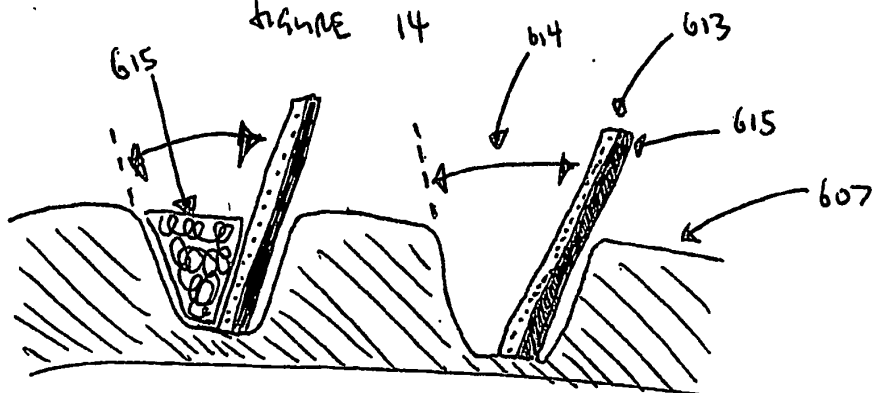


FIGURE 14



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